

Movable filing cabinet for documents - incorporates toothed wheel and profiled track with internal rack

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Patent Family

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NL 1001897	C2	19970617	NL 951001897	A	19951214	199736	
<u>EP 779047</u>	B1	20000419	EP 96203302	A	19961125	200024	
DE 69607813	E	20000525	DE 607813	A	19961125	200032	
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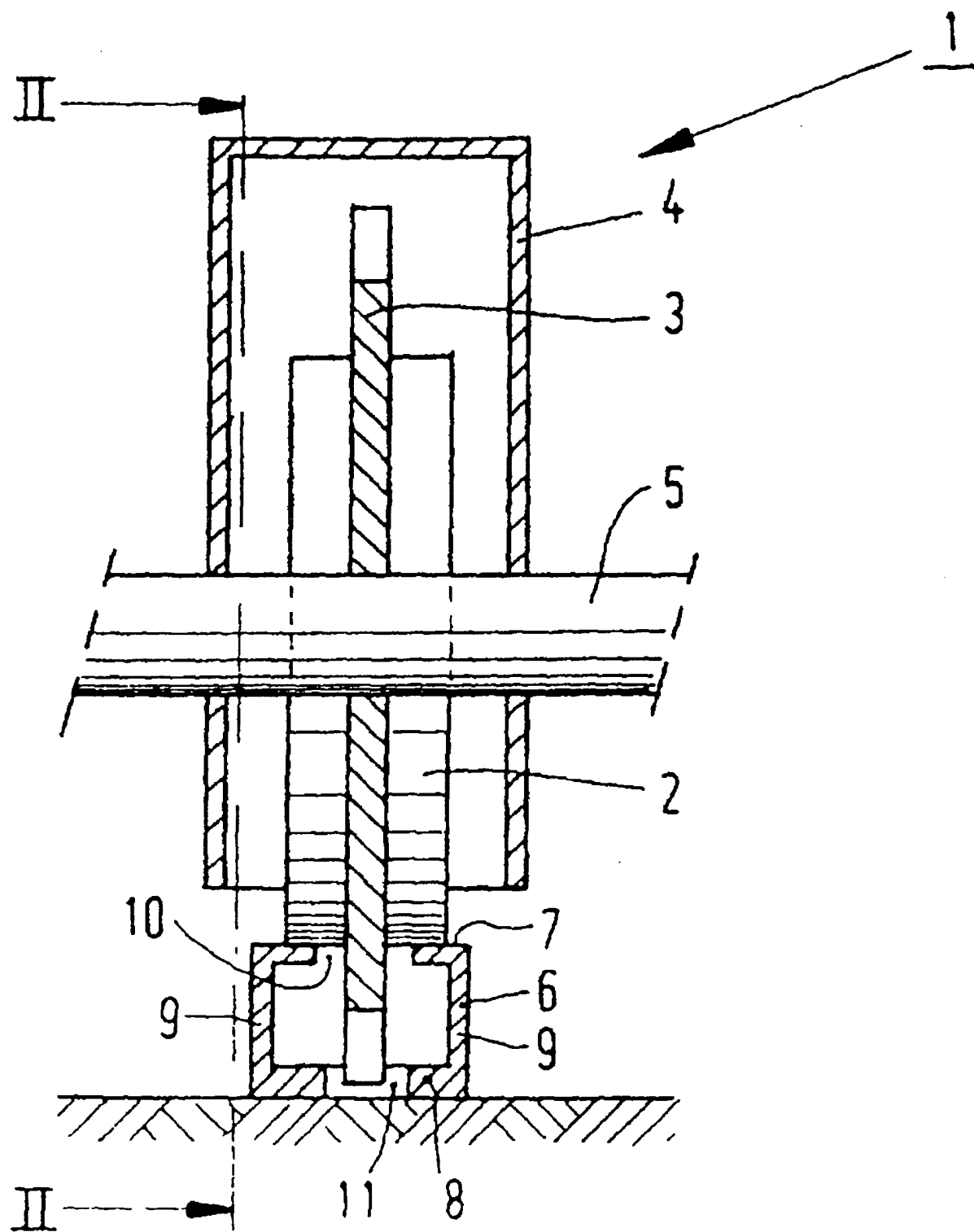
Abstract:

EP 779047 A

The filing cabinet track comprises a rectangular tube (6) with a slot (10) in its upper surface and a perforated track (11) in its base.

The drive which is fitted to the filing cabinet consists of a housing which contains a pair of ground wheels (2) and a toothed wheel (3) which rotate in the housing. The ground wheels run on the upper surface of the track and the toothed wheel, which projects through the slot and engages in the perforated track, is connected to drive shaft (5). Rotation of the drive shaft moves the toothed wheel along the perforated track and so displaces the filing cabinet.

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(54) **A mobile filing cabinet provided with a moving device as well as such a moving device**
Beweglicher Aktenschrank mit einer Bewegungsvorrichtung sowie eine Bewegungsvorrichtung
Armoire de classement mobile avec un dispositif de mouvement en plus d'un dispositif de mouvement

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(56) References cited:
CH-A- 580 524 **DE-B- 1 079 296**
DE-B- 1 258 344 **GB-A- 934 891**

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Description

[0001] The invention relates to a mobile filing cabinet provided with a moving device, which moving device comprises a runway, ground wheels, which can run over said runway, a profiled track and a toothed wheel, which is in engagement with said profiled track extending along said runway, whereby said toothed wheel can run over said track while being in engagement therewith.

[0002] The invention furthermore relates to a moving device as such for moving an object.

[0003] In a filing cabinet known from German Patent DE-A1-1,258,344 the profiled track is a gear rack, which is disposed parallel to a runway.

[0004] One drawback of said known device is the fact that the manufacture of such a gear rack is relatively costly and time-consuming.

[0005] The object of the invention is to provide a mobile filing cabinet wherein the profiled track is relatively simple and inexpensive.

[0006] This objective is accomplished with the filing cabinet according to the invention in that said profiled track comprises a perforated section, whereby the pitch distance between the perforations formed in said section is the same as the pitch of the toothed wheel, which is in engagement with said perforated section whilst its teeth cooperate with said perforations. A perforated section of this kind can be obtained in a simple manner, for example by means of a cutting operation.

[0007] It is noted that from German Patent Application DE-1.079.296 a mobile filing cabinet is known wherein the filing cabinet is at a bottom side provided with tracks, which each comprise two beams extending parallel to each other, with pins mounted therebetween. The manufacture of tracks of this type is relatively costly and time-consuming.

[0008] One embodiment of the filing cabinet according to the invention is characterized in that at least one of said ground wheels and said toothed wheel are rotatable in one and the same plane, with said runway and said profiled track being positioned one above the other.

[0009] This leads to a compact, relatively narrow moving device.

[0010] Another embodiment of a filing cabinet according to the invention is characterized in that a tubular section comprises said runway and said profiled track, whereby an upper side of said tubular section provided with an elongated slot comprises said runway and a bottom surface of said tubular section extending parallel to said upper surface comprises said profiled track, whereby said toothed wheel extends through said slot in said upper surface into said profiled track.

[0011] A tubular section of this kind is relatively inexpensive to produce.

[0012] The invention will be explained in more detail hereafter with reference to the drawing, in which:

vice for a filing cabinet according to the invention; Figure 2 is a longitudinal sectional view of the moving device shown in Figure 1;

Figure 3 is a perspective view of a tubular section according to the invention;

Figure 4 is a plan view of the tubular section shown in Figure 3;

Figure 5 is a cross-sectional view of a second embodiment of a moving device for a filing cabinet according to the invention; and

Figure 6 is a longitudinal sectional view of the moving device shown in Figure 5.

[0013] Like parts are numbered alike in the Figures.

[0014] Figure 1 is a cross-sectional view of a moving device for a filing cabinet according to the invention. The moving device 1 comprises a pair of ground wheels 2 and a toothed wheel 3, whereby said ground wheels 2 and said toothed wheel 3 lie in one and the same plane. Wheels 2 and 3 are rotatably journaled in an encasing 4. Toothed wheel 3 is provided with a driving shaft 5, which can be rotatably driven by means which are known per se and which are not shown, therefore.

[0015] The moving device 1 is furthermore provided with an elongated tubular section 6, which comprises an upper surface 7, a bottom surface 8 extending parallel to said upper surface and two lateral surfaces 9 extending transversely between upper surface 7 and the end surface, which lateral surfaces interconnect upper surface 7 and bottom surface 8. Upper surface 7 is provided with a slot 10 extending in the longitudinal direction of tubular section 6. A perforated track 11, which comprises perforations 12 which are spaced apart by a fixed pitch distance, is formed in bottom surface 8, opposite slot 10. The ground wheels 2 are supported on the upper surface 7 of tubular section 6. Toothed wheel 3 extends through slot 10 in upper surface and is in engagement with perforations 12 in perforated track 11. The pitch between two successive teeth of toothed wheel 3 corresponds with the pitch between perforations 12. Toothed wheel 3 runs over the perforated track as a result of being driven by driving shaft 5, and the filing cabinet connected to the encasing 4 is moved. Encasing 4 is secured to the filing cabinet by means which are known per se and which are not shown, therefore.

[0016] Figures 5 and 6 show a second embodiment of a moving device 13 for a filing cabinet according to the invention. The moving device 13 comprises a tubular section 14, whose upper surface 15 comprises the runway. Disposed within said tubular section 14 is a U-shaped section 16, of which a surface 17 extending parallel to the upper surface is provided with perforations 18 which are spaced apart by a fixed pitch distance. Opposite the track provided with perforations 18 a slot is formed in the upper surface, through which slot toothed wheel 3 extends.

[0017] Instead of providing slot 19 it is also possible to provide a perforated section in the upper surface 15

Figure 1 is a cross-sectional view of a moving de-

of tubular section 14. In that case U-shaped section 16 will be left out.

Claims

1. A mobile filing cabinet provided with a moving device (1), which moving device (1) comprises a runway (7, 15), ground wheels (2), which can run over said runway (7, 15), a profiled track (11) and a toothed wheel (3), which is in engagement with said profiled track (11) extending along said runway (7, 15), whereby said toothed wheel (3) can run over said track (11) while being in engagement therewith, characterized in that said profiled track (11) comprises a perforated section (8), whereby the pitch distance between the perforations (12) formed in said section (8) is the same as the pitch of the toothed wheel (3), which is in engagement with said perforated section (8) whilst its teeth cooperate with said perforations (12).
2. A filing cabinet according to claim 1, characterized in that at least one of said ground wheels (2) and said toothed wheel (3) are rotatable in one and the same plane, with said runway (7, 15) and said profiled track (11) being positioned one above the other.
3. A filing cabinet according to claim 2, characterized in that a tubular section (6) comprises said runway (7) and said profiled track (11), whereby an upper surface (7) of said tubular section (6) provided with an elongated slot (10) comprises said runway (7) and a bottom surface (8) of said tubular section (6) extending parallel to said upper surface (7) comprises said profiled track (11), whereby said toothed wheel (3) extends through said slot (10) in said upper surface (7) into said profiled track (11).
4. A moving device (1) for moving an object which moving device (1) comprises a runway (7, 15), ground wheels (2), which can run over said runway (7, 15), a profiled track (11) and a toothed wheel (3), which is in engagement with said profiled track (11) extending along said runway (7, 15), whereby said toothed wheel (3) can run over said track (11) while being in engagement therewith, characterized in that said profiled track (11) comprises a perforated section (8), whereby the pitch distance between the perforations (12) formed in said section (8) is the same as the pitch of the toothed wheel (3), which is in engagement with said perforated section (8) whilst its teeth cooperate with said perforations (12).
5. A moving device according to claim 4, characterized in that at least one of said ground wheels (2)

and said toothed wheel (3) are rotatable in one and the same plane, with said runway (7, 15) and said profiled track (11) being positioned one above the other.

6. A moving device according to claim 5, characterized in that a tubular section (6) comprises said runway (7) and said profiled track (11), whereby an upper surface (7) of said tubular section (6) provided with an elongated slot (10) comprises said runway (7) and a bottom surface (8) of said tubular section (6) extending parallel to said upper surface (7) comprises said profiled track (11), whereby said toothed wheel (3) extends through said slot (10) in said upper surface (7) into said profiled track (11).

Patentansprüche

1. Beweglicher Aktenschrank mit einer Bewegungsvorrichtung (1), die eine Fahrbahn (7, 15), Bodenräder (2), die über die Fahrbahn (7, 15) laufen können, eine Profilschiene (11) und ein Zahnrad (3) aufweist, das in die sich entlang der Fahrbahn (7, 15) erstreckende Profilschiene (11) eingreift, wobei das Zahnrad (3) über die Schiene (11) laufen kann, während es mit ihr in Eingriff steht, **dadurch gekennzeichnet**, daß die Profilschiene (11) einen durchlöcherten Abschnitt (8) hat, wobei der Abstand zwischen den in dem Abschnitt (8) ausgebildeten Löchern (12) der gleiche wie der Abstand der Zähne des Zahnrads (3) ist, das in den durchlöcherten Abschnitt (8) eingreift, wobei seine Zähne mit den Löchern (12) zusammenwirken.
2. Aktenschrank nach Anspruch 1, **dadurch gekennzeichnet**, daß mindestens eines der Bodenräder (2) und das Zahnrad (3) in ein und derselben Ebene drehbar sind, wobei die Fahrbahn (7, 15) und die Profilschiene (11) übereinander angeordnet sind.
3. Aktenschrank nach Anspruch 2, **dadurch gekennzeichnet**, daß ein rohrförmiger Abschnitt (6) die Fahrbahn (7) und die Profilschiene (11) aufweist, wobei die oben liegende Fläche (7) des mit einem Längsschlitz (10) versehenen rohrförmigen Abschnitts (6) die Fahrbahn (7) umfaßt und eine sich parallel zur oben liegenden Fläche (7) erstreckende unten liegende Fläche (8) des rohrförmigen Abschnitts (6) die Profilschiene (11) umfaßt, wobei sich das Zahnrad (3) durch den Schlitz (10) in der oben liegenden Fläche (7) in die Profilschiene (11) erstreckt.
4. Bewegungsvorrichtung (1) zum Bewegen eines Objekts, die eine Fahrbahn (7, 15), Bodenräder (2),

die über die Fahrbahn (7, 15) laufen können, eine Profilschiene (11) und ein Zahnrad (3) aufweist, das in die sich entlang der Fahrbahn (7, 15) erstreckende Profilschiene (11) eingreift, wobei das Zahnrad (3) über die Schiene (11) laufen kann, während es mit ihr in Eingriff steht,

dadurch gekennzeichnet,

daß die Profilschiene (11) einen durchlöcherten Abschnitt (8) hat, wobei der Abstand zwischen den in dem Abschnitt (8) ausgebildeten Löchern (12) der gleiche wie der Abstand der Zähne des Zahnrads (3) ist, das in den durchlöcherten Abschnitt (8) eingreift, wobei seine Zähne mit den Löchern (12) zusammenwirken.

5. Bewegungsvorrichtung nach Anspruch 4,

dadurch gekennzeichnet,

daß mindestens eines der Bodenräder (2) und das Zahnrad (3) in ein und derselben Ebene drehbar sind, wobei die Fahrbahn (7, 15) und die Profilschiene (11) übereinander angeordnet sind.

6. Bewegungsvorrichtung nach Anspruch 5,

dadurch gekennzeichnet,

daß ein rohrförmiger Abschnitt (6) die Fahrbahn (7) und die Profilschiene (11) aufweist, wobei die oben liegende Fläche (7) des mit einem Längsschlitz (10) versehenen rohrförmigen Abschnitts (6) die Fahrbahn (7) umfaßt und eine sich parallel zur oben liegenden Fläche (7) erstreckende unten liegende Fläche (8) des rohrförmigen Abschnitts (6) die Profilschiene (11) umfaßt, wobei sich das Zahnrad (3) durch den Schlitz (10) in der oben liegenden Fläche (7) in die Profilschiene (11) erstreckt.

Revendications

1. Une armoire-fichier mobile dotée d'un dispositif de déplacement (1), ledit dispositif de déplacement (1) englobant un chemin de roulement (7, 15), des roulettes lisses (2), qui peuvent se mouvoir sur ledit chemin de roulement (7, 15), un guide profilé (11) et une roue dentée (3) qui est en prise avec ledit guide profilé (11) s'étendant le long dudit chemin de roulement (7, 15), ladite roue dentée (3) pouvant se mouvoir sur ledit guide (11) tout en demeurant en prise avec celui-ci, caractérisé en ce que ledit guide profilé (11) englobe une section perforée (8), l'écartement entre les perforations (12) formées dans ladite section (8) étant identique au pas de ladite roue dentée (3), qui est en prise avec ladite section perforée (8) lorsque ses dents coopèrent avec lesdites perforations (12).
2. Une armoire-fichier selon la revendication 1, caractérisée en ce que l'une au moins desdites roulettes lisses (2) et ladite roue dentée (3) peuvent tourner

dans un même plan unique, ledit chemin de roulement (7, 15) et ledit guide profilé (11) étant placés l'un au-dessus de l'autre.

3. Une armoire-fichier selon la revendication 2, caractérisée en ce qu'une section tubulaire (6) englobe ledit chemin de roulement (7) et ledit guide profilé (11), une surface supérieure (7) de ladite section tubulaire (6) dotée d'une fente allongée (10) englobant ledit chemin de roulement (7) et une surface inférieure (8) de ladite section tubulaire (6) qui s'étend parallèlement à ladite surface supérieure (7) englobant ledit guide profilé (11), ladite roue dentée (3) se prolongeant à travers ladite fente (10) dans ladite surface supérieure (7) jusque dans ledit guide profilé (11).
4. Un dispositif de déplacement (1) pour déplacer un objet, ledit dispositif de déplacement (1) englobant un chemin de roulement (7, 15), des roulettes lisses (2) qui peuvent se mouvoir sur ledit chemin de roulement (7, 15), un guide profilé (11) et une roue dentée (3) qui est en prise avec ledit guide profilé (11) s'étendant le long dudit chemin de roulement (7, 15), ladite roue dentée (3) pouvant se mouvoir sur ledit guide (11) tout en demeurant en prise avec celui-ci, caractérisé en ce que ledit guide profilé (11) englobe une section perforée (8), l'écartement entre les perforations (12) formées dans ladite section (8) étant identique au pas de la roue dentée (3) qui est en prise avec ladite section perforée (8) lorsque ses dents coopèrent avec lesdites perforations (12).
5. Un dispositif de déplacement selon la revendication 4, caractérisé en ce que l'une au moins desdites roulettes lisses (2) et ladite roue dentée (3) peuvent tourner dans un même plan unique, ledit chemin de roulement (7, 15) et ledit guide profilé (11) étant placés l'un au-dessus de l'autre.
6. Un dispositif de déplacement selon la revendication 5, caractérisé en ce qu'une section tubulaire (6) englobe ledit chemin de roulement (7) et ledit guide profilé (11), une surface supérieure (7) de ladite section tubulaire (6) dotée d'une fente allongée (10) englobe ledit chemin de roulement (7), et une surface inférieure (8) de ladite section tubulaire (6) qui s'étend parallèlement à ladite surface supérieure (7) englobe ledit guide profilé (11), ladite roue dentée (3) se prolongeant à travers ladite fente (10) dans ladite surface supérieure jusque dans ledit guide profilé (11).

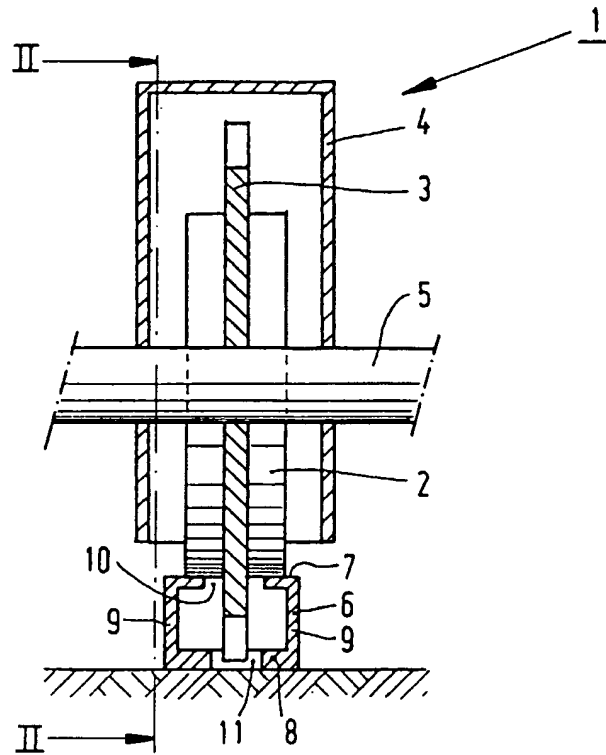


FIG. 1

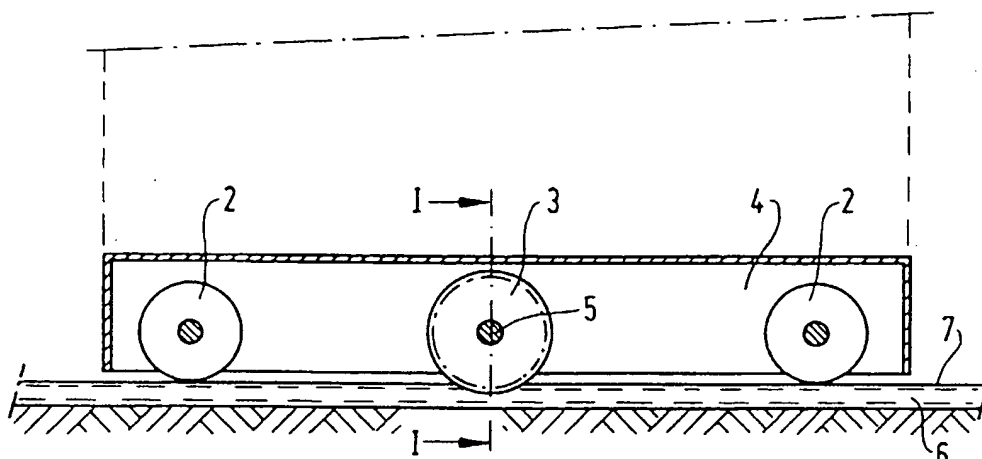


FIG. 2

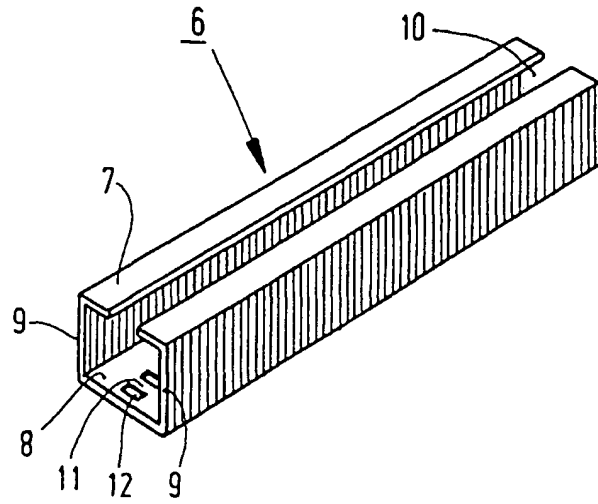


FIG. 3

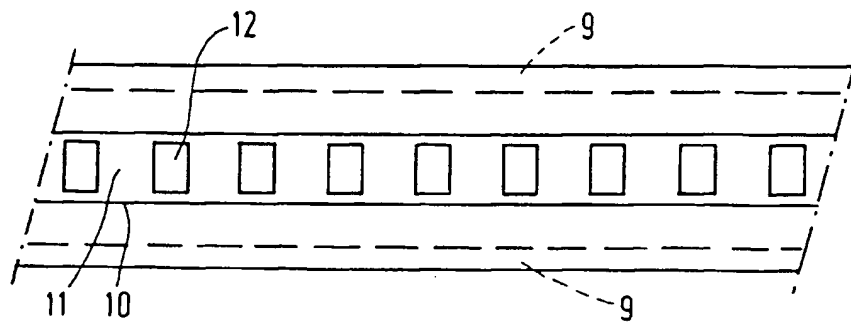
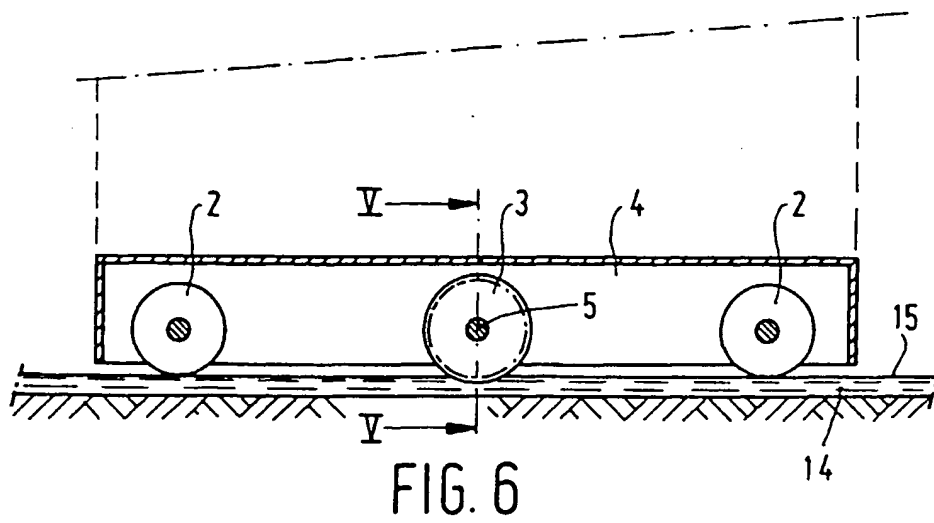
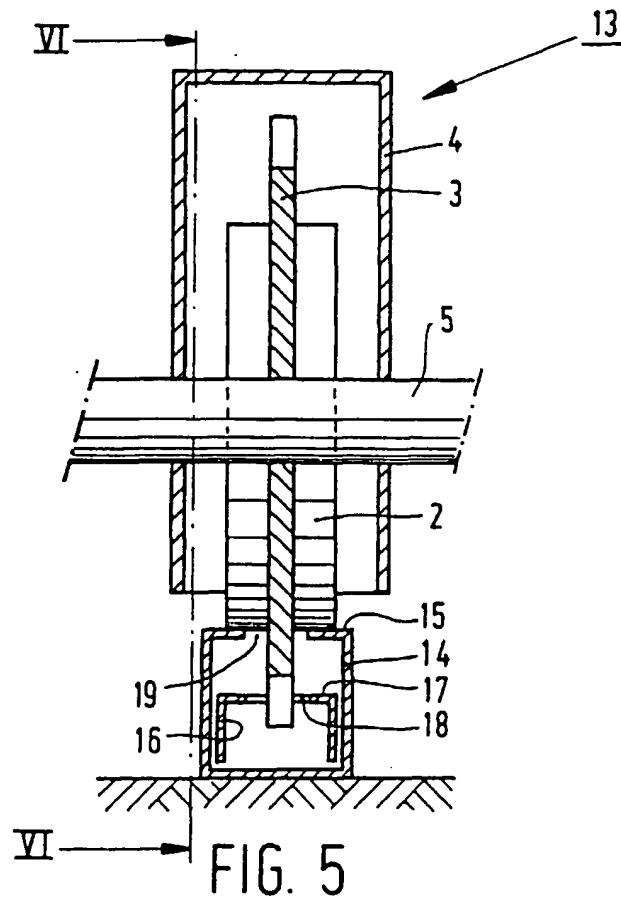


FIG. 4



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